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EXAMINER				
GEISEL, KARA E				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/599,744

Applicant(s)

SAHIRI ET AL.

Examiner

KARA E. GEISEL

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-16 is/are rejected.
- 7) ☒ Claim(s) 6, 7 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's amendment, filed February 5th, 2009 has overcome the claim objections and claim rejections under 35 U.S.C. 112 second paragraph. These objections and rejections have been withdrawn.

The terminal disclaimer filed February 5th, 2009 has rendered the double patenting rejection moot. This rejection has been withdrawn.

It is noted for the purposes of the arguments below, applicant has amended claim 1 from "can be attached detachably" to "is attached detachably". The term "can be" is a possibility, and therefore being detachable was not required in the previous claim. The new language of "is" is definite, requiring the mirror to be attached detachably, therefore narrowing the scope of the previous claim 1.

Applicant's arguments, see page 8, first line of second full paragraph, with respect to the rejection(s) of claim(s) 1-2, 10, 12, and 14-15 under 35 U.S.C. 102(b) as being anticipated by Hughes et al. (USPN 5,557,103) have been fully considered and are persuasive **only** in that Hughes is silent with respect to the detachability of the mirror. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection under 35 U.S.C. 103(a) in view of Hughes is made. With respect to the rest of the arguments in regards to Hughes, they have been fully considered but they are not persuasive. Applicant argues that "there is no suggestion or disclosure in Hughes et al. of a beam path for guiding the light received by the light inlet upward toward the receiving cup". It appears applicant's definition of "towards the receiving cup" is through the actual receiving cup (see top of page 9). However, it is noted that within claim 1, the only mention of the light going through the medium is in the preamble, which, as discussed in the previous Office action, was not given patentable weight. Therefore, the claim only discloses "a first device located downstream of the light inlet and defining a beam path for guiding the light received by the light inlet upwards towards the receiving point". Towards is defined by the Examiner as "in the direction of" (see <http://www.dictionary.net/toward>). As is clearly

shown in fig. 1 of Hughes, the light is indeed going upward towards the receiving point 10. Applicant further argues, “this reference uses a wholly different measurement principle using diffuse reflection, basically at the surface of the medium in the cup, without showing, mentioning or suggesting any passing of the light beam through the medium”. As is noted above, the only mention of the light going **through** the medium or even how the light is analyzed is in the preamble, and therefore, this is not given patentable weight. Therefore, the new rejection under 35 U.S.C. 103(a) is deemed proper.

Applicant’s arguments, see the first full paragraph of page 9, with respect to the rejection under 35 U.S.C. 102(b) as being anticipated by Doyle et al. (USPN 5,418,615) have been fully considered and are persuasive in that Doyle does not disclose or make obvious the reflector being attached detachably. The rejection based on Doyle et al. has been withdrawn.

Applicant’s arguments with respect to the rejection under 35 U.S.C. 102(e) as being anticipated by Burge (USPN 7,170,608) have been fully considered but they are not persuasive. Applicant argues that “this reference also fails to provide a reflector which is attached detachably above the receiving point opposite from the beam path extending from the light inlet”. However, as is clearly shown in fig. 7, reflector 48 is indeed attached detachably. As this system is modular (see figs. 5-7) it does not matter where the mirror is located (on the bottom of the cell or the top) and therefore, this teaching meets the claim limitation of a reflector which is attached detachably above the receiving point opposite from the beam path extending from the light inlet. Applicant further argues that the light inlet of Burge is not horizontal. However, as is discussed in the previous action, this term, along with the term upwards, is relative. The reason they are relative is that horizontal and upwards have not been defined within the claim in relation to each other or any part of the device. Having a light inlet oriented horizontally, merely discloses having a light inlet that has a part that is aligned along a parallel path. Burge meets this limitation because the face of light inlet (which is either defined as the face of the cavity or filter 60) is aligned horizontally to the rest of the device. Furthermore, guiding a light received by the light inlet

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upwards can merely mean that the light is directed from a direction of low to high. Since this depends on the position of the user, this term is relative. Furthermore, the face of the light inlet is generally perpendicular to the direction of the light beam. Therefore, this rejection has been maintained.

Terminal Disclaimer

The terminal disclaimer filed on February 5th, 2009 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Patent 7,483,138 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-4, 8-12, and 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Burge (USPN 7,170,608), previously cited.

In regards to claim 1, Burge discloses a device (figs. 1-4 and 7) for the analysis or absorption measurement of a small quantity of a liquid medium (sample in 46 and column 3, lines 21-22) using light (via 20), which is guided through the medium and then can be detected or analyzed photometrically, spectrophotometrically, fluorometrically, or spectrofluorometrically (it is noted that a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re*

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Hirao, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951); column 1, lines 8-10), wherein the device comprises a receiving point (the cavity of 46) area at a top thereof (top is a relative term; column 4, lines 25-28; the fibers are attached to the bottom, top and side of the cell for analysis; the fiber component of fig. 4 can be attached to the bottom of fig. 7 thereby making the cavity be "on top") for depositing or applying the medium in drops (it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987)), a light inlet (the front face of light source 20 or filter 30) oriented horizontally and located underneath the receiving point (cavity of 46; as discussed above the face of the light source or filter is horizontal and the light inlet is located in a position away from the position of use thereby meeting this claim limitation) in a housing (as can be seen in fig. 4), and a first device (30) located downstream of the light inlet (24) and defining a beam path for guiding the light received by the light inlet upwards towards the receiving point (as can be seen in fig. 7), the device has a reflector (48), which is attached detachably above the receiving point opposite from the beam path extending from the light inlet (as can be seen in fig. 7; this device is modular, and therefore every fiber optic, including the one with the reflector is attached detachably); the reflector (48) has a defined spacing from the receiving point (defined by the walls of 46) which is filled or can be filled by the medium (medium inside 46) at least in an area aligned with the beam path of the first device; and a second device (22) is provided for guiding the light coming from the reflector (64) towards a detector (19).

In regards to claim 3, the receiving point (cavity of 46) has dimensions such that the light (coming via 24) moving through the receiving point towards the reflector (48) and reflected back from the reflector is guided at least once through the receiving point (cavity of 46) and/or through the medium (inherent to the device).

In regards to claim 4, a light guide or light-guiding fiber bundle (24) is arranged for guiding the light towards the receiving point (cavity of 46) from the first device (30) and a light guide or a fiber bundle (23) for guiding the light coming from the reflector (48) and the sample is arranged between the receiving point (cavity of 46) and the second device (22).

In regards to claim 8, the reflector (48) is a mirror or a reflecting prism and touches the sample of the medium (inside 46) without spacing in the position of use (the medium is filled in 46, thereby there is no spacing).

In regards to claim 9, the measurement distance through the sample is twice as large as a spacing of the receiving surface (46 surface away from 48) from a surface of the reflector (48) and the light travels twice through the spacing (inherent to the device).

In regards to claim 10, the reflector (48), is rotatably fixed (column 3, lines 56-59; the mirror is attached by screw threads, therefore it would be fixed to the cavity by rotating the threads into the hole of the device) with and centered relative to the device and the housing (as can be seen in fig. 7).

In regards to claim 11, the spacing of the reflector (48) from the receiving point (surface away from 48) is set by at least one spacer between the reflector and the housing or a stop (the walls of the cavity 46, can be considered the stop in this case).

In regards to claim 12, the device (fig. 7) has outer dimensions corresponding to outer dimensions of a standard cell (which can be used in fig. 1), adapted for use in a photometer, spectrophotometer, fluorometer, or spectrofluorometer (it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F.2d 1647 (1987)) and receives light therefrom (via 50), and the first and second devices (22 and 30) are positioned in the device (62), such that the first device (30) for guiding light directs the light emitted by a the photometer, spectrophotometer, fluorometer or spectrofluorometer towards the receiving surface (surface away from

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48) and the second device (22) for guiding light directs the light coming back from the measurement point towards the detector (19).

In regards to claim 14, the outer dimensions of a cross section of the device correspond to dimensions of a standard cell (column 2, lines 61-62).

In regards to claim 15, the outgoing light beam is aligned with the incoming light beam or encloses a right angle with the incoming beam (aligned at 31).

In regards to claim 16, the outer dimensions equal 12.5 mm.times.12.5 mm (column 3, lines 21-22).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-2, and 12-15 are rejected 35 U.S.C. 103(a) as being unpatentable over Hughes et al. (USPN 5,557,103), previously cited, in view of well known practices in the art.

In regards to claim 1, Hughes discloses a device (fig. 1) for the analysis or absorption measurement of a small quantity of a liquid medium (sample in 10) using light (14), which is guided through the medium and then can be detected or analyzed photometrically, spectrophotometrically, fluorometrically, or spectrofluorometrically (it is noted that a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951); column 3, line 35), wherein the device comprises a receiving point (10) area at a top thereof (top is a relative term; the placement could be anywhere in the device for depositing or applying the medium in drops (it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F.2d 1647 (1987)), a light inlet (light enters the system horizontally at 14) oriented horizontally and located underneath the receiving point (10; underneath is a relative term as is horizontal; the light is horizontal and the light inlet is located in a position away from the position of use thereby meeting this claim limitation) in a housing (as can be seen in fig. 1), and a first device (18, 16) located downstream of the light inlet (18; again behind is a relative term and 16 is in a position away from the light inlet thereby meeting this claim limitation) and defining a beam path for guiding the light received by the light inlet upwards towards the receiving point (as can be seen in fig. 1), the device has a reflector (20), which is attached above the receiving point opposite from the beam path extending from the light inlet (the reflector is on the opposite side of the sample 10 from where the light inlet is); the reflector (20) has a defined spacing from the receiving point (as can be seen in fig. 1) which is filled or can be filled by the medium (medium inside 10) at least in an area aligned with the beam path of the first device; and a second device (24) is provided for guiding the light coming from the reflector

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(20) towards a detector (26). Hughes is silent to the mirror being attached detachably. However, the Examiner takes Official Notice that it is a well known need in the art to be able to easily clean elements such as the mirror 20 in order to remove debris such as dust and contaminants from the sample so that these debris will not affect the measurement. Furthermore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the mirror of Hughes be attached detachably to the rest of the device, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art (*Nerwin v. Erlichman*, 168 USPQ 177, 179). Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to have the mirror 20 of Hughes be attached detachably as it only requires routine skill in the art, in order to be able to easily clean the mirror 20 in order to remove debris so that these debris will not affect the measurement.

In regards to claim 2, the receiving point (10) has an externally accessible upper surface area (the medium is placed in the receiving point from above) and the medium (inside 10) to be analyzed can be fixed or held by a force of gravity at the receiving point (inherent to this device).

In regards to claim 12, the device (10) has outer dimensions corresponding to outer dimensions of a standard cell (as can be seen in fig. 1), adapted for use in a photometer, spectrophotometer, fluorometer, or spectrofluorimeter (it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987)) and receives light therefrom (light 14), and the first and second devices (18, 24) are positioned in the device (as can be seen in fig. 1), such that the first device (18) for guiding light directs the light emitted by the photometer (14), spectrophotometer, fluorometer or spectrofluorimeter towards the receiving surface (10) and the second device (24) for guiding light directs the light coming back from the measurement point towards the detector (26).

In regards to claim 13, Hughes discloses that the first guiding device (16-18) comprises a tilted prism or a tilted mirror (mirror) facing a shaft or channel (shaft considered the housing) at a right angle to the light inlet for a light guide (light enters housing at a right angle to the sides of the housing), and the second guiding device (22-24) comprises a second tilted prism or a tilted mirror (mirror) facing a shaft or a channel (the housing) at a right angle to the light outlet of another light guide (light exits housing at a right angle to the sides of the housing). Hughes is silent to the device being comprised of glass or plastic. However, the examiner takes Official Notice that it is well known in the art to use glass mirrors with a reflective layer and glass and plastic containers for holding samples, as glass and plastic are inexpensive, and easy to shape, while still allowing good quality measurement parts. Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to have the device be comprised of glass or plastic, such as a glass mirror with a reflective layer, and a glass or plastic sample holder, in order to have inexpensive, easy to create pieces, that still allow good quality measurements.

In regards to claim 14, the outer dimensions of a cross section of the device corresponds to the dimensions of a standard cell (standard cell would be any that fits within the measurement system; thus the cell would meet this claim limitation).

In regards to claim 15, the outgoing light beam is aligned with the incoming light beam or encloses a right angle with the incoming beam (as can be seen in fig. 1 incoming and outgoing light beams are aligned).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burge (USPN 7,170,608) in view of well known practices in the art.

In regards to claim 5, Burge discloses the device as discussed above. Burge is silent to optics comprising at least one convergent lens, which bundles the light and which is coupled optically with at least one of the light guide for guiding the light towards the receiving point or the light guide for guiding the light coming from the reflector, which is provided underneath the receiving point for the medium.

However, the Examiner takes Official notice that it is very well known in the art for convergent lenses to be used in combination with an optical fiber, in order to perform more efficient coupling of the light to and from the optical fibers. For example, a lens between the light source 20 and the light guide for guiding the light towards the receiving point 24 would allow more light from the light source to be sent through the light guide, thereby allowing more light to interact with the sample in 46. Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to include at least one convergent lens, which bundles the light and which is coupled optically with at least one of the light guide for guiding the light towards the receiving point or the light guide for guiding the light coming from the reflector, which is provided underneath the receiving point for the medium in order to provide more efficient coupling of the light from the light source to the light guide, and from the light guide to the detector.

Allowable Subject Matter

Claims 6-7 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 6, the prior art of record, taken alone or in combination, fails to disclose or render obvious a device for the analysis or absorption measurement of a small quantity of a liquid medium using light, which is guided through the medium and then can be detected wherein the receiving point is an area recess on the top side of the device underneath the reflector and is **formed by a boundary of the optics facing the receiving point**, wherein the boundary of the optics is recessed relative to a top side of a holder for the optics, in combination with the rest of the limitations of claim 6.

As to claim 17, the prior art of record, taken alone or in combination, fails to disclose or render obvious a device for the analysis or absorption measurement of a small quantity of a liquid medium using light, which is guided through the medium and then can be detected wherein the receiving point is an area

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recess on the top side of the device underneath the reflector and is **formed by the light guides ending at the receiving point position**, wherein the ends of the light guides are recessed relative to a top side of a holder for the light guides, in combination with the rest of the limitations of claim 17.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARA E. GEISEL whose telephone number is **571 272 2416**. The examiner can normally be reached on Monday through Friday, 10am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on **571 272 2800 ext. 77**. The fax phone number for the organization where this application or proceeding is assigned is **571 273 8300**.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/Kara E Giesel/
Primary Examiner,
Art Unit 2877**

June 1, 2009